

Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

- 1-8 (Cancelled).
9. (Withdrawn) A mold comprising a plurality of geometric structures set forth in claim 1.
10. (Withdrawn) The mold of claim 9, wherein the plurality of geometric structures comprise a plurality of cube corner elements.
11. (Withdrawn) The mold of claim 10, wherein at least some of the plurality of cube corner elements are PG cube corner elements.
12. (Withdrawn) The mold of claim 10, wherein the plurality of cube corner elements are part of a structured surface that comprises cavities formed in the replicated substrate and pyramids formed at least in part on the machined substrate.
13. (Withdrawn) The mold of claim 10, wherein at least some of the cube corner elements are arranged in opposing orientations.
14. (Withdrawn) The mold of claim 10, wherein at least some of the cube corner elements are canted and form matched pairs of cube corner elements.
- 15 (Cancelled).

16. (Previously Presented) A compound substrate, comprising:
a first replicated substrate having a structured surface;
a plurality of second machined substrate ~~piece~~ pieces embedded in ~~a portion~~ portions of the structured surface ~~of the first substrate~~; and
at least one a plurality of cube corner element elements that has each form a cube corner pyramid having a machined substrate piece embedded in a portion of the structured surface and that each have at least one compound face including a replicated substrate face and a machined substrate face.
~~at least one constituent face disposed on the first substrate and at least another constituent face disposed on the second substrate piece~~
~~wherein embedding the second substrate piece in the structured surface of the first substrate involves:~~
~~machining the second substrate to form a second substrate structured surface;~~
~~treating a portion of the second substrate structured surface to permit selective bonding thereto;~~
~~forming the first substrate onto the second substrate structured surface to create an assembly having an interface between the first substrate and the second substrate, the interface including a bonded segment and an unbonded segment; and~~
~~machining the assembly such that a second substrate piece adjacent the unbonded segment is removed and a second substrate piece adjacent to the bonded segment remains embedded in the first substrate.~~

17. (Currently Amended) The substrate of claim 16, wherein the plurality of cube corner element elements each have has a cube height of no greater than about 1 mm and the ~~at least one constituent face and the at least another constituent face~~ replicated substrate face and machined substrate face are disposed on opposite sides of a transition line that is nonparallel to a dihedral edge of the cube corner element.

18. (Currently Amended) The substrate of claim 16, wherein the ~~at least one constituent face and the at least another constituent face~~ replicated substrate face and machined substrate face are disposed on opposite sides of a transition line, wherein substantially all transition lines are parallel to a reference plane.

19. (Previously Presented) The substrate of claim 16, wherein the cube corner element has an outline in plan view selected from the group of shapes consisting of a hexagon and a quadrilateral.

20. (Currently Amended) A compound substrate, comprising:

a first replicated substrate and a second machined substrate, the first replicated substrate having a structured surface and a plurality of discrete pieces of the second machined substrate disposed in discrete pieces on embedded in the structured surface; each of the first replicated and second machined substrates having an exposed surface that defines a compound face of a cube corner element on the compound substrate;

~~wherein disposing the discrete pieces of the second substrate in the structured surface of the first substrate involves:~~

~~machining the second substrate to form a second substrate structured surface;~~

~~treating a portion of the second substrate structured surface to permit selective bonding thereto;~~

~~forming the first substrate onto the second substrate structured surface to create an assembly having an interface between the first substrate and the second substrate, the interface including bonded segments and unbonded segments; and~~

~~machining the assembly such that second substrate pieces adjacent the unbonded segments are removed and such that discrete pieces of the second substrate that are adjacent to the bonded segments remain disposed on the structured surface of the first substrate.~~

21. (Currently Amended) The compound substrate of claim 20, wherein the structured surface of the first replicated substrate includes cavities and the discrete pieces of the second machined substrate comprise a plurality of pyramids that are adjacent to the cavities.

22. (Original) The compound substrate of claim 21, wherein the pyramids and cavities form cube corner elements that have associated therewith a symmetrical entrance angularity.

23. (Original) A cube corner article made by at least one replication from the substrate of claim 20.

24. (Withdrawn) A method of making a geometric structure in an article, comprising the steps of:

providing a compound substrate having a structured surface formed along an internal interface between two substrates; and

forming grooved side surfaces in an exposed surface of the compound substrate to form a geometric structure, the geometric structure comprising a portion of the internal interface and a portion of the grooved side surfaces.

25. (Withdrawn) The method of claim 24, wherein the geometric structure comprises one of a cube corner element or a PG cube corner element.

26. (Withdrawn) The method of claim 24, wherein the providing step comprises the steps of:

passivating a surface of at least one of the two substrates; and
selectively removing portions of the passivated surface.

27. (Withdrawn) The method of claim 24, wherein the forming step comprises forming an array of cube corner elements, which array includes the geometric structure.

28. (Withdrawn) The method of claim 27, wherein at least some of the cube corner elements are canted and arranged in opposing orientations.

29. (Withdrawn) The method of claim 24, further comprising forming at least one reference mark in at least one of the two substrates.

30. (Withdrawn) The method of claim 24, wherein the grooved side surfaces extend along axes that are parallel to a common plane.

31. (Withdrawn) The method of claim 24, wherein the providing step comprises:
providing a first substrate;
forming a plurality of faces in a first surface of the first substrate; and
forming a second substrate over the plurality of faces as a replica.

32. (Withdrawn) The method of claim 31, wherein the forming a plurality of faces in the first surface comprises forming at least two intersecting sets of parallel v-shaped grooves.

33. (Withdrawn) The method of claim 24, wherein the step of forming grooved side surfaces produces discrete pieces of one of the two substrates on the other substrate, the method further comprising the step of:

removing at least some of the discrete pieces to expose portions of the internal interface.

34. (Withdrawn) The method of claim 24, further comprising the step of:
replicating the geometric structure to form retroreflective sheeting.

35. (Withdrawn) The method of claim 24, wherein the step of forming grooved side surfaces comprises the step of forming a plurality of geometric structures selected from the group consisting of three-sided geometric structures and four-sided geometric structures.

36. (Withdrawn) A method of making a structured surface article comprising a geometric structure having a plurality of faces, the method comprising the steps of:

forming a plurality of faces in a first surface of a machined substrate;
forming a replicated substrate of the machined substrate to form a compound substrate;

forming a plurality of faces in a second surface of the machined substrate opposite the first surface; and

removing selected portions of the machined substrate to form a geometric structure having at least a first face disposed on the machined substrate and at least a second face disposed on the replicated substrate.

37. (Withdrawn) The method of claim 36, wherein the geometric structure is one of a plurality of geometric structures each comprising a cube corner element, at least some of the cube corner elements being arranged in opposing orientations.

38-39 (Cancelled).

40. (Currently Amended) A compound substrate, comprising:

a structured surface including a first replicated substrate portion and a second machined substrate portion embedded in the first replicated substrate portion, the compound substrate further comprising at least one compound face including a substantially planar surface having a first face portion on the second machined substrate portion of the compound substrate and a second face portion on the first replicated substrate portion of the compound substrate, the first and second face portions being on opposite sides of a transition line[[:]].

~~wherein embedding the second substrate portion in the first substrate portion involves:~~

~~machining a second substrate to form a second substrate structured surface;~~

~~treating a portion of the second substrate structured surface to permit selective bonding thereto;~~

~~forming a first substrate onto the second substrate structured surface to create an assembly having an interface between the first substrate and the second substrate, the interface including bonded segments and unbonded segments; and~~

~~machining the assembly to cause removal of at least some of the pieces of the second substrate that are adjacent the unbonded segments and to permit at least some of the second substrate portions adjacent to the bonded segments to remain embedded in the first substrate portion.~~